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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JOHNSTON, PHILLIP A

ART UNIT PAPER NUMBER

2881

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,893

Applicant(s)

CEKIC ET AL.

Examiner

Phillip A. Johnston

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-79 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-79 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3-17-2005</u> . | 6) <input type="checkbox"/> Other: ____ |

Detailed Action

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-79 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-75 of U.S. Patent No. 6,614,028. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is obvious to one of ordinary skill in the art that all the limitations in Claims 1-79 of Application No. 10632893 are contained in Claims 1-75

of U.S. Patent No. 6,614,028. By way of example, a comparison of Claim 1 of Application No. 10632893, with Claim 1 of U.S. Patent No. 6,614,028 is included below.

Claim 1 of Application No. 10632893 reads as follows;

Apparatus for treating a volume of fluid, said apparatus comprising: a fluid passageway through which the fluid flows; at least one source of irradiation, external to said fluid passageway; at least two reflecting troughs, each trough having a curved cross section, with a closed end, top and bottom edges, and an open end, the open end of each trough having first and second end edges, the open end of said first trough facing the open end of said second trough to define a space between the closed ends of said troughs, the top edges of said first and second troughs defining a first plane, and the bottom edges of said first and second troughs defining a second plane; a first set of reflectors joining the end edges of said first trough to the end edges of said second trough, each reflector of said first set of reflectors having a top edge lying substantially in the first plane and a bottom edge lying substantially in the second plane; and a second set of reflectors joining the top edges of said troughs and of said first set of reflectors and joining the bottom edges of said troughs and of said first set of reflectors, said second set of reflectors cooperating with said troughs and said first set of reflectors to define a substantially enclosed chamber having said at least one source of irradiation therein and having said fluid passageway passing therethrough, wherein: each source of irradiation is within a respective one of said troughs, and at least one of said fluid passageway and said at least one source of

irradiation is spaced from all focal axes of said troughs so as to provide a substantially uniform irradiation distribution within the fluid in said fluid passageway.

Claim 1 of U.S. Patent No. 6,614,028 reads as follows:

Apparatus for treating a volume of fluid, said apparatus comprising: a fluid passageway through which the fluid flows; at least one source of irradiation, external to said fluid passageway; and at least two elongated elliptical reflecting troughs for reflecting irradiation from said source of irradiation onto said fluid passageway, each trough having a closed elliptical end and an open end, the open ends facing each other to define a space between the closed ends of said troughs, each trough having first and second focal axes, a major axis, and minor axis, wherein: each of said fluid passageway and said at least one source of irradiation is positioned in the space between the closed ends of said troughs, with each source of irradiation within a respective one of said at least two troughs, and at least one of said fluid passageway and said at least one source of irradiation is spaced from said focal axes so as to provide a substantially uniform irradiation distribution within the fluid in said fluid passageway.

It is obvious to one of ordinary skill in the art that all the limitations in Claims 1-79 of Application No. 10632893, are for the most part, contained in Claims 1-75 of U.S. Patent No. 6,614,028.

Claims Rejection – 35 U.S.C. 103

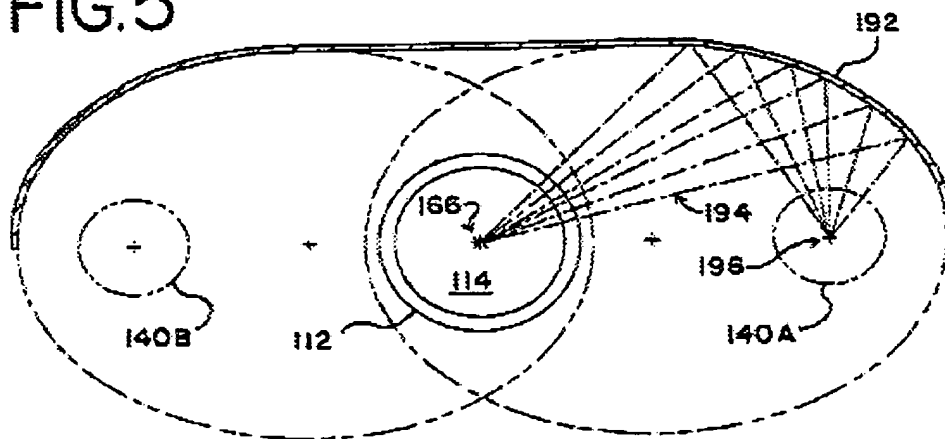
3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 11-22, 27-29, 35, 40-42, and 69-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No. 6,590,217, to Freeman, and Carter, U.S. Patent No. 6,626,561.

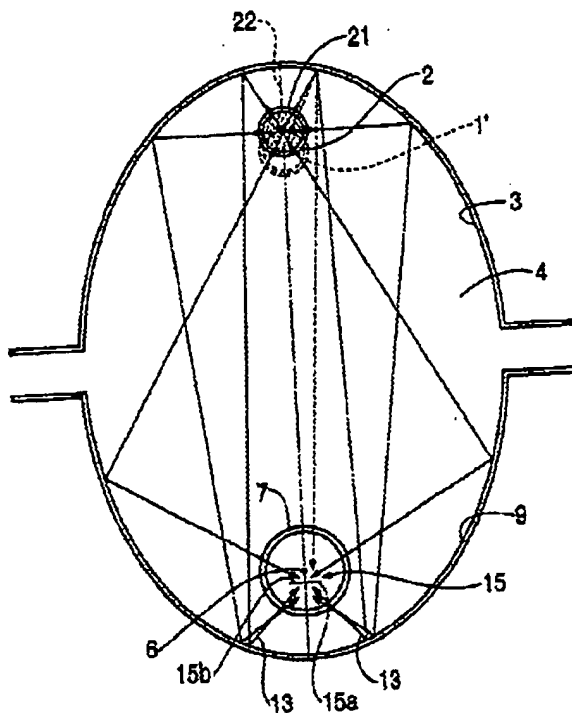
Freeman (217) discloses a UV sterilization unit having a tubular shaped irradiation chamber formed of plural reflectors 192 and plural tubular shaped lamps 140A and 140B, aligned longitudinally such that all UV energy is focused on the fluid in passageway 112, as recited in claims 1-4, 11-17, 19, 20, 27, 72, and 74-79. See Column 2, line 65-67; Column 3, line 1-14; Column 6, line 15-27; and Figure 5 below.

FIG.5



Freeman (217) as applied above fails to teach placing the lamp in a position spaced apart from the focal axes of the troughs to provide a uniform irradiation distribution, as recited in claims 1, 18, 21, 22, 28, 29, 69-71, and 73. However, Carter (561) teaches defocusing the lamp within the reflector chamber to provide more uniformity of irradiation at the surface of the sample. See Column 3, line 3-9; Column 4, line 11-20; and Figure 4 below.

FIG. 4

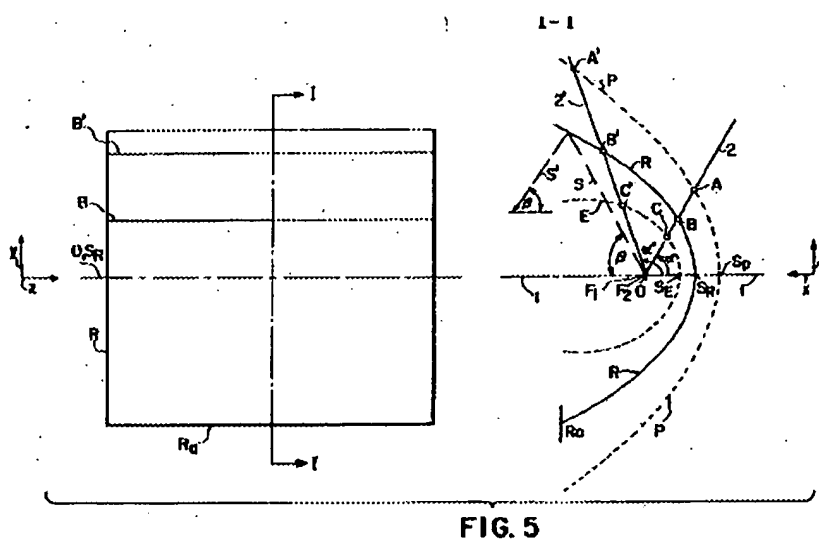


Therefore it would have been obvious to one of ordinary skill in the art that the UV sterilization apparatus and method of Freeman (217) can be modified to use the source defocusin method of Carter (561), to provide a lamp spaced from the first focal point of the elliptical reflector, thereby providing a more uniformly irradiated sample surface.

5. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (217) and Carter (561), in view of Kano, U.S. Patent No. 5,136,491, and in further view of LeBlanc (387).

The combination of Freeman (217) and Carter (561) fails to teach the use of the reflector shapes recited in claims 5-7, and 10. However, Kano (491) discloses the use of elliptical, parabolic and segmented reflector shapes, as recited in claims 5-7, and 10. See Column 1, line 10-16; Column 6, line 1-14; and Figure 5 below.

Therefore it would have been obvious to one of ordinary skill in the art that the UV sterilization apparatus and method of Freeman (217), and Carter (561), can be modified to use the reflector shaping method of Kano (491), to provide various reflector forms, but also providing the lamp designer with a method enabling him to design an optimum reflector form in dependence upon the given marginal conditions for the lamp and the desired light distribution.



The combination of Freeman (217), Carter (561), and Kano (491) fails to teach the use of a V shaped reflector, as recited in claims 8 and 9. However LeBlanc (387) teaches the use of a V shaped reflector. See Figure 1 below.

Therefore it would have been obvious to one of ordinary skill in the art that the sterilization apparatus and method of Freeman (217), Carter (561), and Kano (491) can be modified to use the V shaped reflector of LeBlanc (387), to provide fluid exposure to the radiation that can be optimized by creating an orientation pattern of UV lamps around the tubing with ultraviolet reflective surfaces directing the radiation toward the fluid.

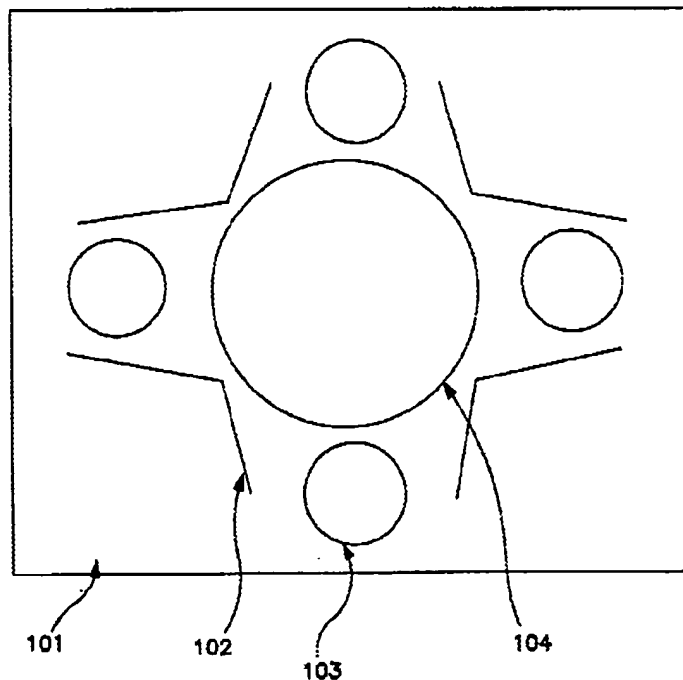


FIG. 1

6. Claims 23-26,30-34,36-39, 43-68,71 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (217), Carter (561), Kano (491), and LeBlanc (387).

Regarding claims 23-26,30-34,36-39, 43-50,71 and 72, the combination of Freeman (217), Carter (561), Kano (491), and LeBlanc (387) discloses the claimed invention except for the rearrangement of sources and the fluid passageway, relative to the focal axes of the troughs as recited in claims 23-26,30-34,36-39, 43-50,71 and 72. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the locations of the sources and the fluid passageway within the irradiation chamber, since it have been held that a mere rearrangement of element without modification of the operation of the device involves only routine skill in the art. One would have been motivated to rearrange the locations of the sources and the fluid passageway relative to the focal axes of the troughs for the purpose of optimizing irradiation of the sample.

In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950), shifting the location of an element would not have modified the operation of device. In re Kuhle, 526 F.2d 553, 188 USPQ7 (CCPA 1975), the particular placement of an element was held to be obvious.

In addition, the Figures disclosed in the references below are further evidence that one skilled in the art would be motivated to rearrange the locations of sources and samples in an irradiation apparatus to optimize the intensity distribution in the sample;

Figure 2b in U.S. Patent No. 6, 083,387;

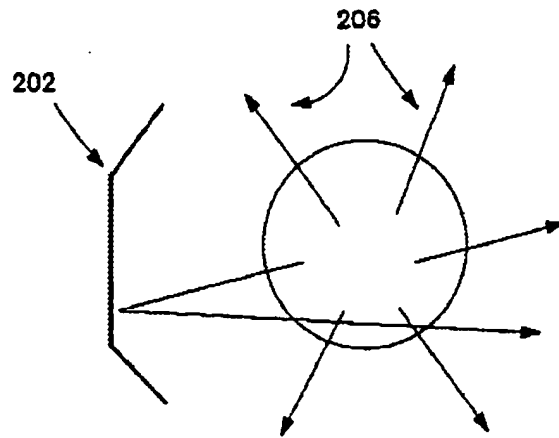


FIG. 2B

Figure's 1 and 4 in U.S. Patent No. 5,989,283;

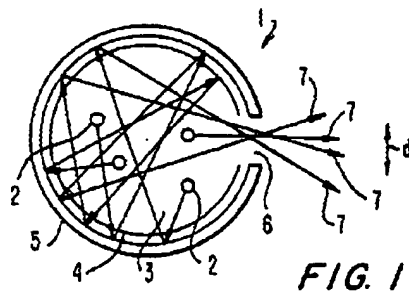


FIG. 1

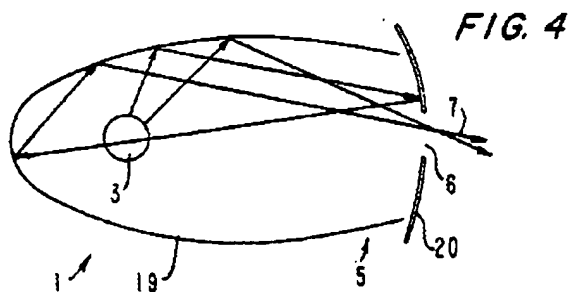


FIG. 4

Figure's 4 and 5 in U.S. Patent No. 4,694,179;

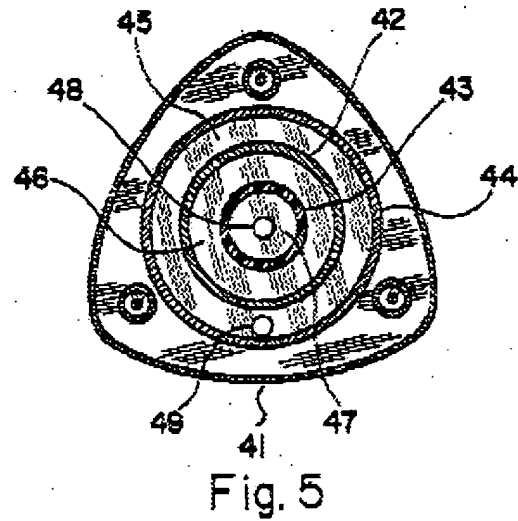
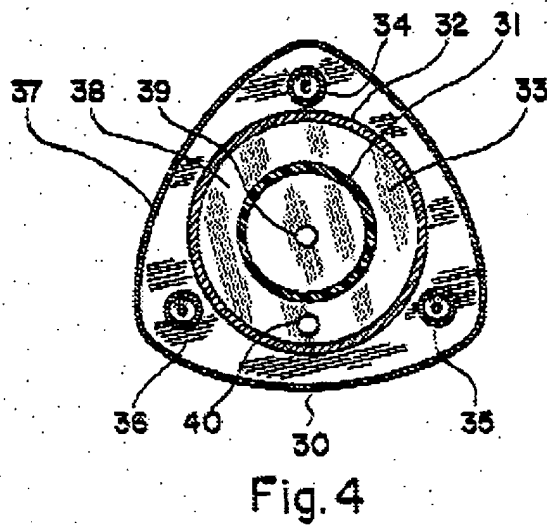


Figure 3 in U.S. Patent No. 6,707,048

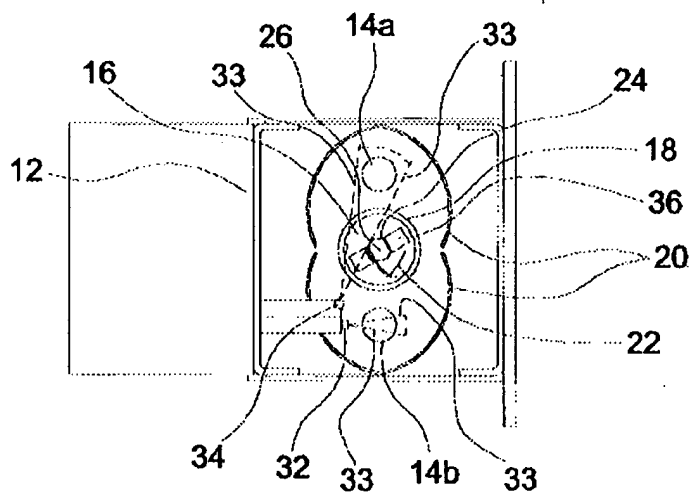


FIG. 3

Regarding claims 50-68, the combination of Freeman (217), Carter (561), Kano (491), and LeBlanc (387) discloses the claimed invention except for the source mount, trough mount and fluid passageway being adjustable. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make adjustable, since it have been held that adjustability, where needed, involves only routine skill in the art. One would have been motivated to make the source mount, trough mount and fluid passageway adjustable for the purpose of changing the their respective positions to optimize the irradiation.

In re Stevens, 212 F.2d 197, 101 USPQ 284 (CCPA 1954), the court held that adjustability, where needed, is not a patentable advance, and because there was an art recognized need for the adjustment.

Conclusion

7. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (571) 272-2477. The fax phone number for the organization where the application or proceeding is assigned is 703 872 9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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Business Center (EBC) at 866-217-9197 (toll-free).

PJ

March 17, 2005



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